

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/078470 A3**

(51) International Patent Classification<sup>7</sup>: **G01R 33/561**

(21) International Application Number:  
PCT/IB2005/050458

(22) International Filing Date: 3 February 2005 (03.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
04100486.2 10 February 2004 (10.02.2004) EP

(71) Applicant (for all designated States except DE, US):  
**KONINKLIJKE PHILIPS ELECTRONICS N.V.**  
[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(71) Applicant (for DE only): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-  
damm 94, 20099 Hamburg (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FUDERER, Miha**  
[BE/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **EGGERS, Holger** [DE/DE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agents: **COHEN, Julius, S.** et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

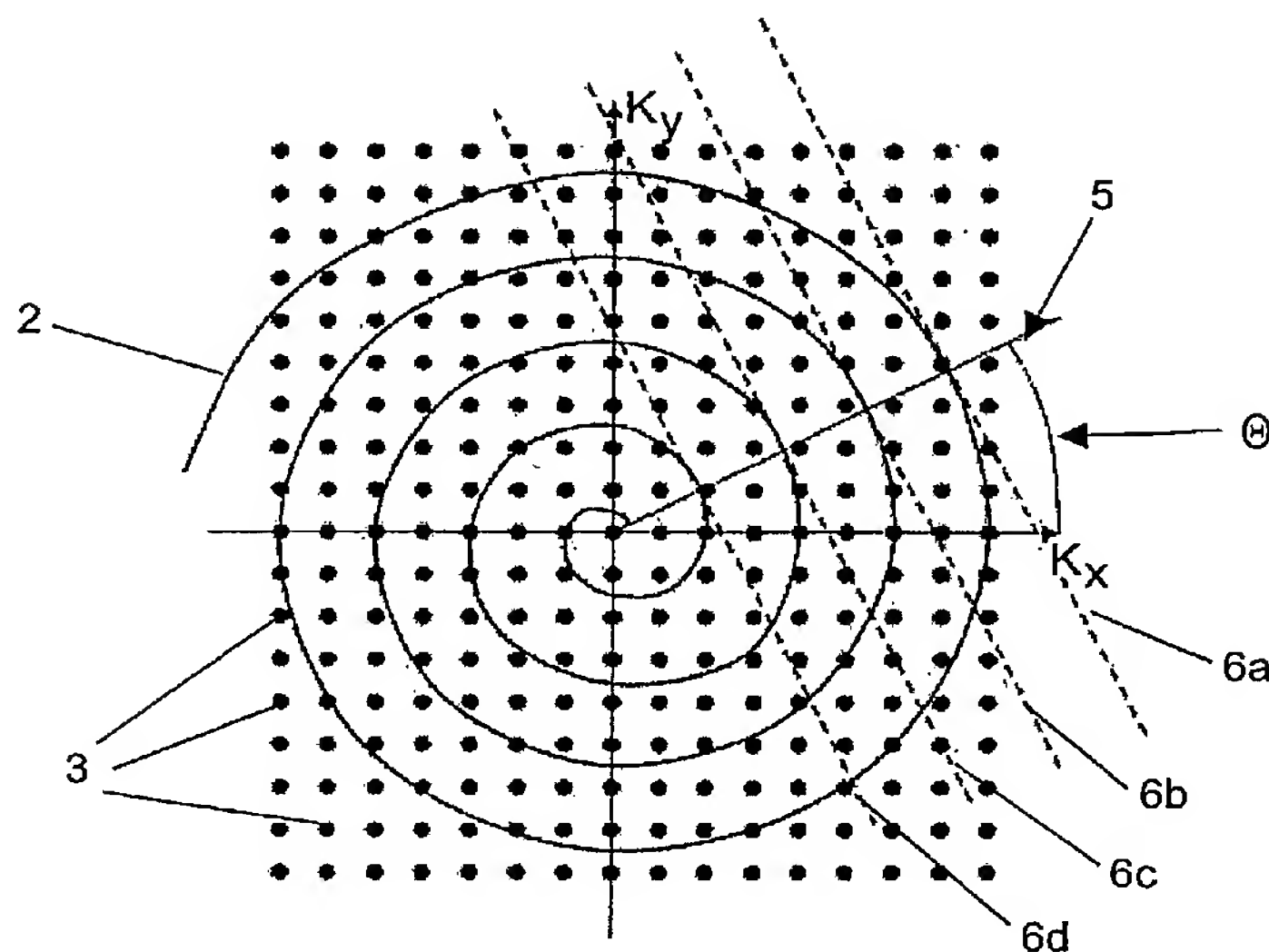
— with international search report

(88) Date of publication of the international search report:

23 February 2006

[Continued on next page]

(54) Title: MAGNETIC RESONANCE IMAGING METHOD



(57) Abstract: A novel magnetic resonance imaging method and apparatus is described wherein an image is derived from sub-sampled magnetic resonance signals and on the basis of the spatial sensitivity profile of each receiving antenna. A sequence of RF-pulses and gradients is applied, which sequence corresponds to a set of trajectories containing at least one substantially non-linear trajectory in k-space, wherein the density of said trajectory set being substantially lower than the density corresponding to the object size. Each signal along said trajectory set is sampled at least at two different receiver antenna positions. The image is reconstructed by converting the data of said signals to a Cartesian grid by convolution with a gridding kernel, whereby the gridding kernel is specific for each antenna, differs between one region and another in k-space, and is a Fourier-transform of a pattern weighted for each antenna with respect to the Cartesian grid.



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

Int. Application No  
PCT/IB2005/050458

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G01R33/561

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
EPO-Internal, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/014889 A1 (PRUSSMANN KLAAS PAUL ET AL) 7 February 2002 (2002-02-07) cited in the application abstract paragraph '0015! - paragraph '0048! -----	1-21
A	US 2003/122545 A1 (VAN DEN BRINK JOHAN ET AL) 3 July 2003 (2003-07-03) cited in the application abstract paragraph '0025! - paragraph '0027! -----	1-21
P,A	WO 2004/104611 A (CASE WESTERN RESERVE UNIVERSITY; WONG, EDDY, Y; HILLENBRAND, CLAUDIA,) 2 December 2004 (2004-12-02) abstract paragraph '0035! - paragraph '0036! ----- -/--	1-21

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

15 June 2005

Date of mailing of the international search report

19/08/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Dragomir, A

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International Application No  
PCT/IB2005/050458

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>BYDDER M ET AL: "Generalized SMASH imaging"</p> <p>MAGNETIC RESONANCE IN MEDICINE, ACADEMIC PRESS, DULUTH, MN, US, vol. 47, no. 1, January 2002 (2002-01), pages 160-170, XP002204471</p> <p>ISSN: 0740-3194</p> <p>abstract</p> <p>page 160, column 1, paragraphs 1,2 - column 2, paragraph 2-4</p> <p>-----</p>	1-21

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PCT/IB2005/050458

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